Drawing Package Supplement

to

MISSILE COMMAND™

Operation, Maintenance, and Service Manual

Contents of this Drawing Package

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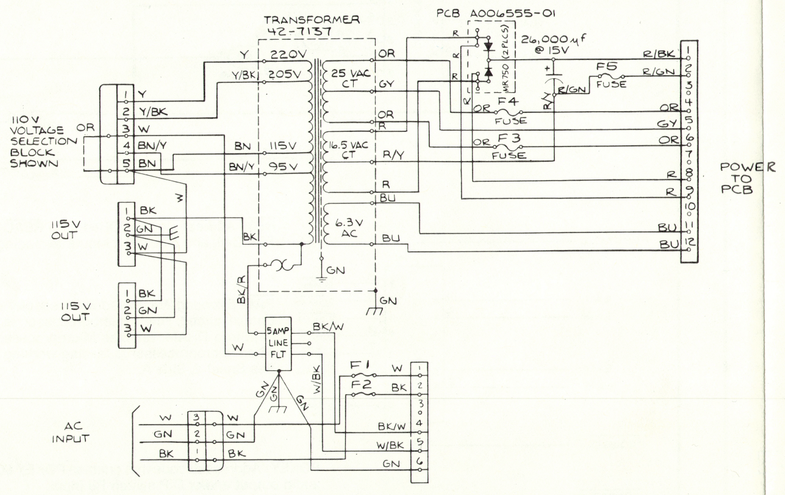
Power Supply Wiring Diagram (007197-01 C)



Regulator/Audio II PCB Schematic (035435-03 B)

The Regulator/Audio PCB has the dual functions of regulating the +5 VDC logic power to the game PCB and amplifying the audio from the game PCB.

Regulator Circuit

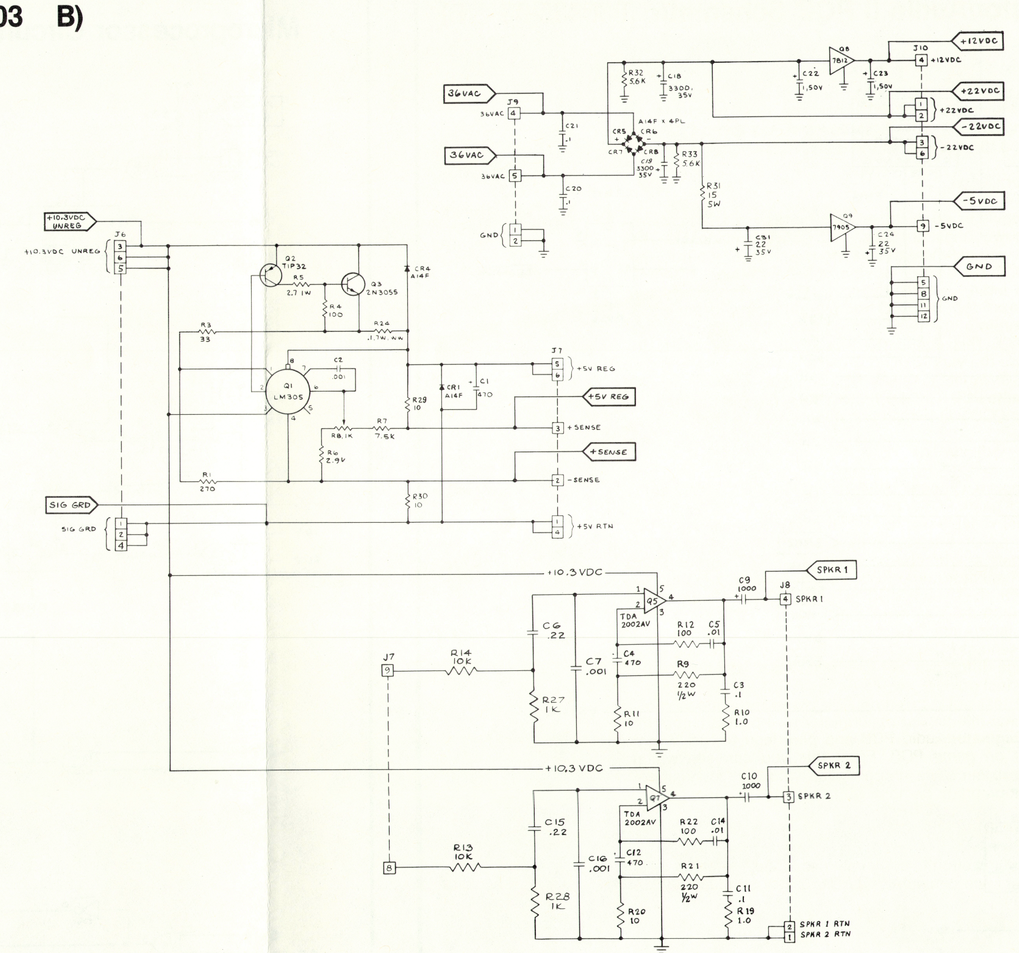
The regulator consists of voltage regulator Q1, current source power transistor Q3 and Q3's bias transistor Q2. The regulator accurately regulates the logic power input to the game PCB by monitoring the voltage through high impedance inputs +SENSE and −SENSE. The inputs are directly from the +5 VDC and ground inputs to the game PCB. Therefore, the regulator regulates the voltage on the game PCB. This eliminates a reduced voltage due to IR buildup on the wire harness between the regulator and the game PCB. Variable resistor R8 is adjusted for the +5 VDC on the game PCB. Once adjusted, the voltage at the input of the game PCB will remain constant at this voltage.

Regulator Adjustment

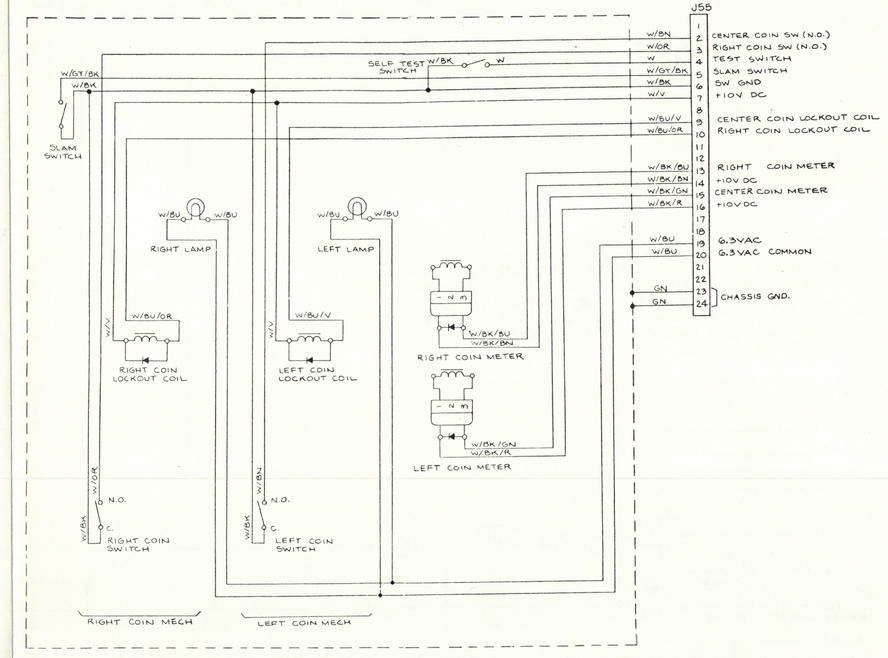
1. Connect a voltmeter between +5 V and GND test points of the game PCB.
2. Adjust variable resistor R8 on the Regulator/Audio PCB for +5 VDC reading on the voltmeter.
3. Connect a voltmeter between +5 V REG and GND on the Regulator/Audio PCB. Voltage reading shall not be greater than +5.5 VDC. If greater, try cleaning edge connectors on both the game PCB and the Regulator/Audio PCB.
4. If cleaning PCB edge connectors doesn't decrease voltage difference, connect minus lead of voltmeter to GND test point of Regulator/Audio PCB and plus lead to GND test point of game PCB. Note the voltage. Now connect minus lead of voltmeter to +5 REG test point on Regulator/Audio PCB and plus lead to +5 V test point on game PCB. From this you can see which harness circuit is dropping the voltage. Troubleshoot the appropriate harness wire or harness connector.

Audio Circuit

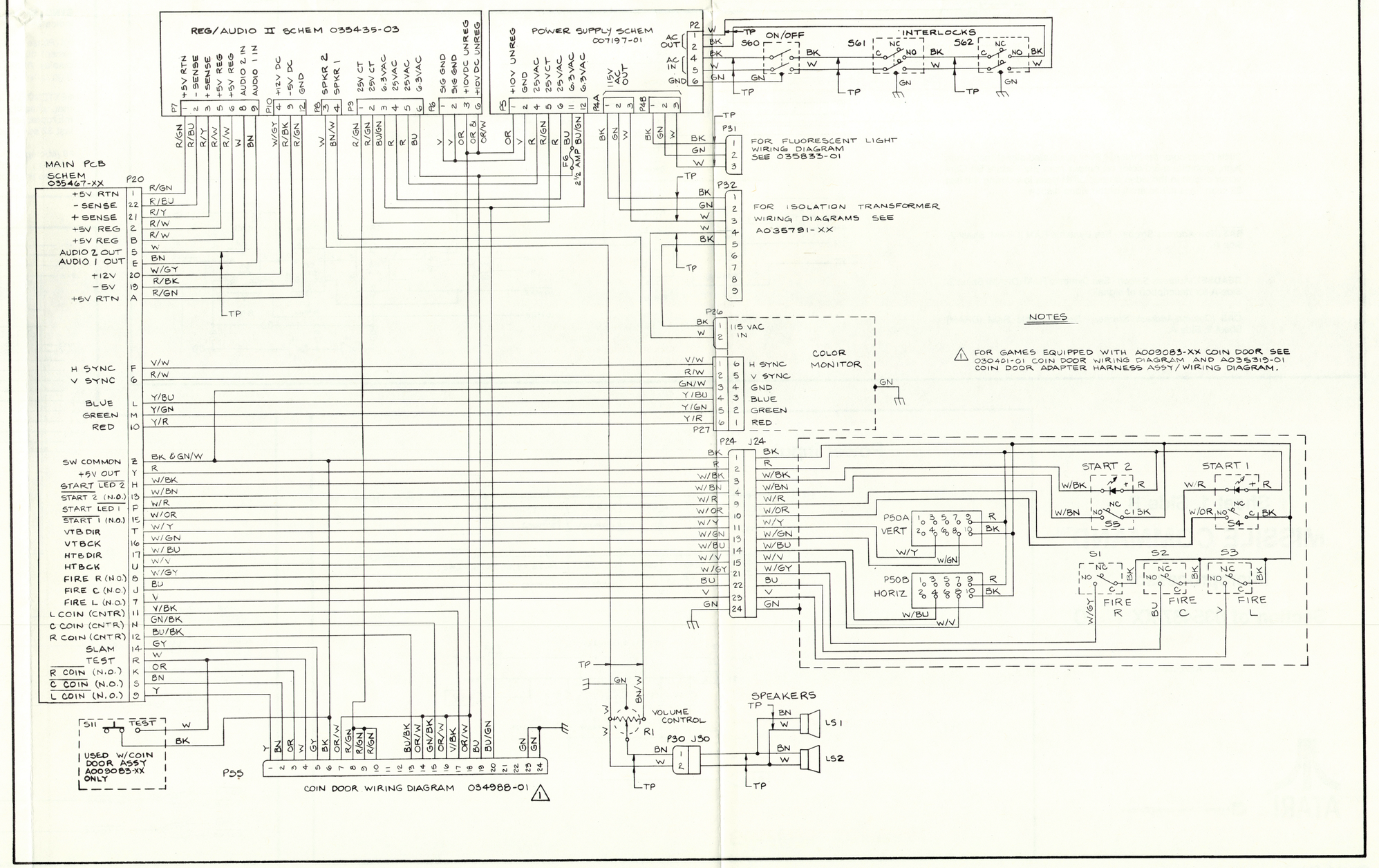
The audio circuit contains two independent audio amplifiers. Each consists of a TDA2002AV amplifier with a gain of ten.



Coin Door Schematic (034988-01 A)



Game Wiring Diagram (035800-01 C)



DIAGNOSTIC TESTS

Instruction	Use of Test
1. Set self-test switch to **on** position. Note: entering self-test will set the HIGH SCORE TODAY display to 7500.	
2. Press alpha base fire button and slam switch simultaneously. Release slam switch first.	A convergence pattern appears on the monitor screen. The background can be many possible colors. If you are going to converge the monitor, black is the color you want. To change background color, press either START button. **Do not attempt any convergence adjustments unless you are a qualified color TV technician!**
3. Press omega base fire button and slam switch simultaneously. Release slam switch first.	Vertical color bars appear on the screen, to permit color hue and brightness adjustments. Pressing either start button changes the color of the right and left vertical bars. **Do not attempt any color hue or brightness adjustments unless you are a qualified color TV technician!**
4. Press delta base fire button and slam switch simultaneously.	White screen appears, and tiny black dots trace all the raster lines from top to bottom (takes about 47 seconds). After this, a blue **RAM OK** message appears on the screen, and the + will reappear. If the message **BAD RAM** appears and some or all of the digits 1 thru 8, refer to the following to determine the failing RAM chips.

Test no. 4 display	*Bad chip location*
BAD RAM 8	P4
BAD RAM 7	N4
BAD RAM 6	M4
BAD RAM 5	L4
BAD RAM 4	K4
BAD RAM 3	J4
BAD RAM 2	H4
BAD RAM 1	F4

5. Set self-test switch to **off** position.	Check attract mode display and readjust brightness if necessary.